



Republic of the Philippines
Department of Education
National Capital Region
Schools Division Office – Muntinlupa City

**SPECIAL PROGRAM FOR TECHNICAL VOCATIONAL EDUCATION [SPTVE]
SHIELDED METAL ARC WELDING 9 / Quarter 3: Week 2 Module**

I. **Topic:** Weld Butt Joint [Close] in Flat Position

II. **Objectives:**

1. Perform stringer beads in accordance with welding standard.
2. Check uniformity of bead ripples in accordance with welding standards.
3. Perform inspection on the finished weldment based on acceptable standard.

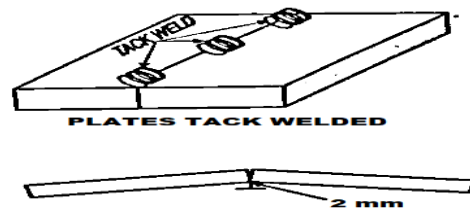
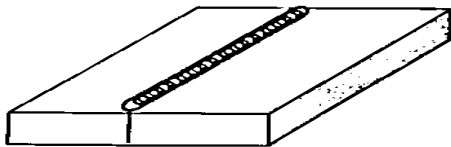
III. **Brief Introduction of the Lesson:**

. This module contains information and suggested learning activities for **Weld Butt Joint (Close) in Flat Position**. The scope of this module permits it to be used in many different learning situations. The language used recognizes the diverse vocabulary level of students.

SQUARE EDGE (CLOSE) BUTT WELD IN FLAT POSITION

Target: To weld a square edge close butt-weld in flat position. The bead should be straight in terms of height and width, with smooth ripples and the welded plates aligned.

Plan Illustration:



Welding procedure:

1. Tack weld the plates 10 mm from each end and at the center with no gap between plates.
2. Pre-set the plates to allow for angular distortion.
3. Lay the plate flat on the table with the side. Which is not tacked on top.
4. Weld first the side which is not tacked with the electrode at 70° travel angle and 90° work angle.

Note: Maintain an arc length of 2-3mm.

5. Chip the slag and wire brush the bead.

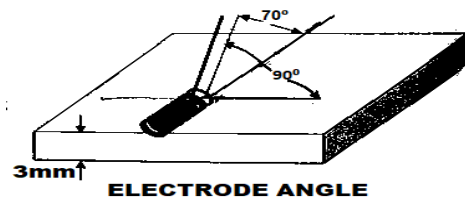
Note: Wear safety glasses or the chipping shield in your welding helmet.

6. Inspect the run for uniform width.

7. Turn the plate over and grind the tacks flush.

Note: Wire brush the plate to remove the scale.

8. Weld the reverse side following the same procedure.



Marking table 2.1:

The passing mark is 20 points.

Criteria	Marks (Subtracted)
1. Straightness	
2. Width of bead	
3. Height of bead	
4. Ripple	





Republic of the Philippines
Department of Education
National Capital Region
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5. Plate alignment	
Total Marks Subtracted	

Final points= 40 – total marks subtracted

Final points = _____

Marking Schedule:

1. Straightness
Subtract 2 marks for each degree of depletion from the line of weld.
2. Width of Bead
Subtract 4 marks from each 10 mm length of bead, which is 1 mm less, or more than required 8 mm bead width.
3. Height of Bead
Subtract 4 marks for each 10 mm length of bead exceeds the height of 3 mm.
4. Ripple
Subtract 4 marks for uneven and coarse ripple.
5. Plate alignment
Subtract 3 marks for each 2 degrees angular misalignment.
Subtract 3 marks for each millimeter of offset between plates.

IV. Activities:

Activity 1: DIRECTION: Draw your plan illustration for square edge [close] butt weld in flat position. Use a separate sheet of paper for your performance.





Republic of the Philippines
Department of Education
National Capital Region
Schools Division Office – Muntinlupa City

Activity 2: DIRECTIONS: Enumerate the correct and proper welding procedure in performing Square edge [close] butt weld in flat position. Use separate sheet of paper for your answer.

Activity 3:

DIRECTIONS: Illustrate the correct electrode angle position when performing square edge [close] butt weld in flat position. Use a separate sheet of paper for your performance.

V. Assessment:

DIRECTION: Complete the procedure. Fill in the blanks with the correct answer. Use separate sheet of paper.

SQUARE EDGE (CLOSE) BUTT WELD IN FLAT POSITION

Tack weld the plates 10 mm from each end and at the center with no gap between plates. Preset the plates to allow for angular distortion. (1)_____ on the table with the side. Which is not tacked on top. Weld first the (2)_____ which is not tacked with the electrode at (3)_____ travel angle and (4)_____ work angle. Maintain an arc length of (5)_____. Chip the slag and wire brush the bead. Inspect the run for uniform width. Turn the plate over and grind the tacks flush. Weld the reverse side following the same procedure.

VI. Reflection:

What is the importance of learning the proper procedure and illustrating plan prior to welding square edge [close] butt weld in flat position?

Can you perform proper welding by simply following the procedures when face to face hands on will go on?





Republic of the Philippines
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National Capital Region
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- Basic Manual Metal Arc Welding, National Training Center for Technical Education and Staff Development
- Welding Principles and Applications, Larry Jeffus and Harold V. Johnson

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